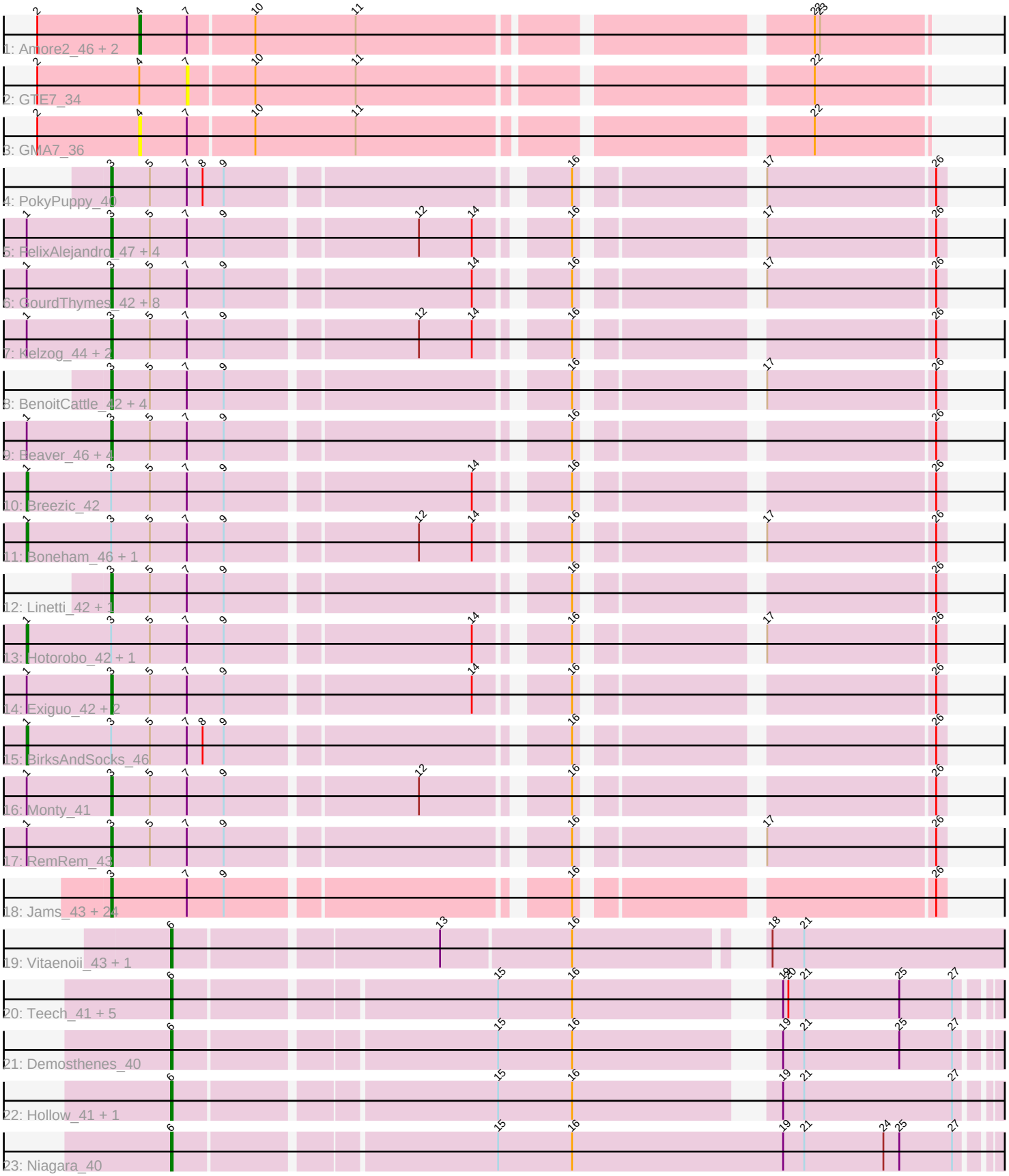
Pham 347515


1: Amore2_46 + 2
2: GTE7_34
3: GMA7_36
4: PokyPuppy_40
5: FelixAlejandro_47 + 4
6: GourdThymes_42 + 8
7: Kelzog_44 + 2
8: BenoitCattle_42 + 4
9: Beaver_46 + 4
10: Breezic_42
11: Boneham_46 + 1
12: Linetti_42 + 1
13: Hotorobo_42 + 1
14: Exiguo_42 + 2
15: BirksAndSocks_46
16: Monty_41
17: RemRem_43
18: Jams_43 + 24
19: Vitaenoii_43 + 1
20: Teech_41 + 5
21: Demosthenes_40
22: Hollow_41 + 1
23: Niagara_40

Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 347515 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347515 has 83 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Amore2_46, Austin_46, HayZem_45
• Track 2 : GTE7_34
• Track 3 : GMA7_36
• Track 4 : PokyPuppy_40
• Track 5 : FelixAlejandro_47, Poland_47, Msay19_47, Butterball_46, Sombrero_42
• Track 6 : GourdThymes_42, Gorko_42, Ekhein_43, Barbochs_41, Squibbles_42, CinnamonToast_48, BillyBobJr_48, Worcestershire_42, Flakey_42
• Track 7 : Kelzog_44, Lizzo_42, CathyBurgh_42
• Track 8 : BenoitCattle_42, Crete_42, Dakiti_42, PierreThree_41, Chelms_41
• Track 9 : Beaver_46, RoyalG_42, SteveFrench_41, Diabla_45, Eggsie_41
• Track 10 : Breezic_42
• Track 11 : Boneham_46, Jellybones_46
• Track 12 : Linetti_42, BigShaq_41
• Track 13 : Hotorobo_42, Adgers_43
• Track 14 : Exiguo_42, Sam12_42, John316_46
• Track 15 : BirksAndSocks_46
• Track 16 : Monty_41
• Track 17 : RemRem_43
• Track 18 : Jams_43, Bianmat_43, Anamika_43, Neoevie_43, Lahirium_43, Kaseim_43, Newt_44, Woes_43, Charianelly_43, Luker_44, Jormungandr_43, Sticker17_43, Lidong_43, Minos_44, Nimi13_43, Shelley_43, Teal_43, Berries_43, Damp_43, GalacticEye_43, Hello_43, MrWormie_43, Harambe_43, Guillaume_43, Hail2Pitt_42
• Track 19 : Vitaenoii_43, Philon9_43
• Track 20 : Teech_41, Kvothe_40, Katyusha_40, Teatealatte_41, Benczkowski14_40, Tredge_41
• Track 21 : Demosthenes_40
• Track 22 : Hollow_41, ASerpRocky_41
• Track 23 : Niagara_40

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 3, it was called in 57 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Anamika_43, Barbochs_41, Beaver_46, BenoitCattle_42, Berries_43, Bianmat_43, BigShaq_41, BillyBobJr_48, Butterball_46, CathyBurgh_42, Charianelly_43, Chelms_41, CinnamonToast_48, Crete_42, Dakiti_42, Damp_43, Diabla_45, Eggsie_41, Ekhein_43, Exiguo_42, FelixAlejandro_47, Flakey_42, GalacticEye_43, Gorko_42, GourdThymes_42, Guillaume_43, Hail2Pitt_42, Harambe_43, Hello_43, Jams_43, John316_46, Jormungandr_43, Kaseim_43, Kelzog_44, Lahirium_43, Lidong_43, Linetti_42, Lizzo_42, Luker_44, Minos_44, Monty_41, MrWormie_43, Msay19_47, Neoevie_43, Newt_44, Nimi13_43, PierreThree_41, PokyPuppy_40, Poland_47, RemRem_43, RoyalG_42, Sam12_42, Shelley_43, Sombrero_42, Squibbles_42, SteveFrench_41, Sticker17_43, Teal_43, Woes_43, Worcestershire_42,

Genes that have the "Most Annotated" start but do not call it:
• Adgers_43, BirksAndSocks_46, Boneham_46, Breezic_42, Hotorobo_42, Jellybones_46,

Genes that do not have the "Most Annotated" start:
• ASerpRocky_41, Amore2_46, Austin_46, Benczkowski14_40, Demosthenes_40, GMA7_36, GTE7_34, HayZem_45, Hollow_41, Katyusha_40, Kvothe_40, Niagara_40, Philon9_43, Teatealatte_41, Teech_41, Tredge_41, Vitaenoii_43,

Summary by start number:

Start 1:
• Found in 33 of 83 (39.8%) of genes in pham
• Manual Annotations of this start: 6 of 78
• Called 18.2% of time when present
• Phage (with cluster) where this start called: Adgers_43 (CS2), BirksAndSocks_46 (CS2), Boneham_46 (CS2), Breezic_42 (CS2), Hotorobo_42 (CS2), Jellybones_46 (CS2),

Start 3:
• Found in 66 of 83 (79.5%) of genes in pham
• Manual Annotations of this start: 57 of 78
• Called 90.9% of time when present
• Phage (with cluster) where this start called: Anamika_43 (CS3), Barbochs_41 (CS2), Beaver_46 (CS2), BenoitCattle_42 (CS2), Berries_43 (CS3), Bianmat_43 (CS3), BigShaq_41 (CS2), BillyBobJr_48 (CS2), Butterball_46 (CS2), CathyBurgh_42 (CS2), Charianelly_43 (CS3), Chelms_41 (CS2), CinnamonToast_48 (CS2), Crete_42 (CS2), Dakiti_42 (CS2), Damp_43 (CS3), Diabla_45 (CS2), Eggsie_41 (CS2), Ekhein_43 (CS2), Exiguo_42 (CS2), FelixAlejandro_47 (CS2), Flakey_42 (CS2), GalacticEye_43 (CS3), Gorko_42 (CS2), GourdThymes_42 (CS2), Guillaume_43 (CS3), Hail2Pitt_42 (CS3), Harambe_43 (CS3), Hello_43 (CS3), Jams_43 (CS3), John316_46 (CS2), Jormungandr_43 (CS3), Kaseim_43 (CS3), Kelzog_44 (CS2), Lahirium_43 (CS3), Lidong_43 (CS3), Linetti_42 (CS2), Lizzo_42 (CS2), Luker_44 (CS3), Minos_44 (CS3), Monty_41 (CS2), MrWormie_43 (CS3), Msay19_47 (CS2), Neoevie_43 (CS3), Newt_44 (CS3), Nimi13_43 (CS3), PierreThree_41 (CS2), PokyPuppy_40 (CS2), Poland_47 (CS2), RemRem_43 (CS2), RoyalG_42 (CS2), Sam12_42 (CS2), Shelley_43 (CS3), Sombrero_42 (CS2), Squibbles_42 (CS2), SteveFrench_41 (CS2), Sticker17_43 (CS3), Teal_43 (CS3), Woes_43 (CS3), Worcestershire_42 (CS2),

Start 4:
• Found in 5 of 83 (6.0%) of genes in pham
• Manual Annotations of this start: 3 of 78
• Called 80.0% of time when present
• Phage (with cluster) where this start called: Amore2_46 (CS1), Austin_46 (CS1), GMA7_36 (CS1), HayZem_45 (CS1),

Start 6:
• Found in 12 of 83 (14.5%) of genes in pham
• Manual Annotations of this start: 12 of 78
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ASerpRocky_41 (CS4), Benczkowski14_40 (CS4), Demosthenes_40 (CS4), Hollow_41 (CS4), Katyusha_40 (CS4), Kvothe_40 (CS4), Niagara_40 (CS4), Philon9_43 (CS4), Teatealatte_41 (CS4), Teech_41 (CS4), Tredge_41 (CS4), Vitaenoii_43 (CS4),

Start 7:
• Found in 71 of 83 (85.5%) of genes in pham
• No Manual Annotations of this start.
• Called 1.4% of time when present
• Phage (with cluster) where this start called: GTE7_34 (CS1),

Summary by clusters:

There are 4 clusters represented in this pham: CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:
•Start number 4 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:
•Start number 1 was manually annotated 6 times for cluster CS2.
•Start number 3 was manually annotated 32 times for cluster CS2.

Info for manual annotations of cluster CS3:
•Start number 3 was manually annotated 25 times for cluster CS3.

Info for manual annotations of cluster CS4:
•Start number 6 was manually annotated 12 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_41 Start: 44705, Stop: 44253, Start Num: 6
Candidate Starts for ASerpRocky_41:
(Start: 6 @44705 has 12 MA's), (15, 44534), (16, 44492), (19, 44393), (21, 44381), (27, 44297),

Gene: Adgers_43 Start: 43296, Stop: 42826, Start Num: 1
Candidate Starts for Adgers_43:
(Start: 1 @43296 has 6 MA's), (Start: 3 @43248 has 57 MA's), (5, 43227), (7, 43206), (9, 43185), (14, 43053), (16, 43011), (17, 42924), (26, 42831),

Gene: Amore2_46 Start: 43956, Stop: 43543, Start Num: 4

Candidate Starts for Amore2_46:
(2, 44013), (Start: 4 @43956 has 3 MA's), (7, 43929), (10, 43893), (11, 43836), (22, 43605), (23, 43602),

Gene: Anamika_43 Start: 45628, Stop: 45206, Start Num: 3
Candidate Starts for Anamika_43:
(Start: 3 @45628 has 57 MA's), (7, 45586), (9, 45565), (16, 45391), (26, 45211),

Gene: Austin_46 Start: 43956, Stop: 43543, Start Num: 4
Candidate Starts for Austin_46:
(2, 44013), (Start: 4 @43956 has 3 MA's), (7, 43929), (10, 43893), (11, 43836), (22, 43605), (23, 43602),

Gene: Barbochs_41 Start: 43087, Stop: 42665, Start Num: 3
Candidate Starts for Barbochs_41:
(Start: 1 @43135 has 6 MA's), (Start: 3 @43087 has 57 MA's), (5, 43066), (7, 43045), (9, 43024), (14, 42892), (16, 42850), (17, 42763), (26, 42670),

Gene: Beaver_46 Start: 45134, Stop: 44712, Start Num: 3
Candidate Starts for Beaver_46:
(Start: 1 @45182 has 6 MA's), (Start: 3 @45134 has 57 MA's), (5, 45113), (7, 45092), (9, 45071), (16, 44897), (26, 44717),

Gene: Benczkowski14_40 Start: 44738, Stop: 44286, Start Num: 6
Candidate Starts for Benczkowski14_40:
(Start: 6 @44738 has 12 MA's), (15, 44567), (16, 44525), (19, 44426), (20, 44423), (21, 44414), (25, 44360), (27, 44330),

Gene: BenoitCattle_42 Start: 43192, Stop: 42770, Start Num: 3
Candidate Starts for BenoitCattle_42:
(Start: 3 @43192 has 57 MA's), (5, 43171), (7, 43150), (9, 43129), (16, 42955), (17, 42868), (26, 42775),

Gene: Berries_43 Start: 45599, Stop: 45177, Start Num: 3
Candidate Starts for Berries_43:
(Start: 3 @45599 has 57 MA's), (7, 45557), (9, 45536), (16, 45362), (26, 45182),

Gene: Bianmat_43 Start: 45639, Stop: 45217, Start Num: 3
Candidate Starts for Bianmat_43:
(Start: 3 @45639 has 57 MA's), (7, 45597), (9, 45576), (16, 45402), (26, 45222),

Gene: BigShaq_41 Start: 43197, Stop: 42775, Start Num: 3
Candidate Starts for BigShaq_41:
(Start: 3 @43197 has 57 MA's), (5, 43176), (7, 43155), (9, 43134), (16, 42960), (26, 42780),

Gene: BillyBobJr_48 Start: 45165, Stop: 44743, Start Num: 3
Candidate Starts for BillyBobJr_48:
(Start: 1 @45213 has 6 MA's), (Start: 3 @45165 has 57 MA's), (5, 45144), (7, 45123), (9, 45102), (14, 44970), (16, 44928), (17, 44841), (26, 44748),

Gene: BirksAndSocks_46 Start: 45160, Stop: 44690, Start Num: 1
Candidate Starts for BirksAndSocks_46:

(Start: 1 @45160 has 6 MA's), (Start: 3 @45112 has 57 MA's), (5, 45091), (7, 45070), (8, 45061), (9, 45049), (16, 44875), (26, 44695),

Gene: Boneham_46 Start: 45159, Stop: 44689, Start Num: 1
Candidate Starts for Boneham_46:
(Start: 1 @45159 has 6 MA's), (Start: 3 @45111 has 57 MA's), (5, 45090), (7, 45069), (9, 45048), (12, 44946), (14, 44916), (16, 44874), (17, 44787), (26, 44694),

Gene: Breezic_42 Start: 43148, Stop: 42678, Start Num: 1
Candidate Starts for Breezic_42:
(Start: 1 @43148 has 6 MA's), (Start: 3 @43100 has 57 MA's), (5, 43079), (7, 43058), (9, 43037), (14, 42905), (16, 42863), (26, 42683),

Gene: Butterball_46 Start: 45111, Stop: 44689, Start Num: 3
Candidate Starts for Butterball_46:
(Start: 1 @45159 has 6 MA's), (Start: 3 @45111 has 57 MA's), (5, 45090), (7, 45069), (9, 45048), (12, 44946), (14, 44916), (16, 44874), (17, 44787), (26, 44694),

Gene: CathyBurgh_42 Start: 43954, Stop: 43532, Start Num: 3
Candidate Starts for CathyBurgh_42:
(Start: 1 @44002 has 6 MA's), (Start: 3 @43954 has 57 MA's), (5, 43933), (7, 43912), (9, 43891), (12, 43789), (14, 43759), (16, 43717), (26, 43537),

Gene: Charianelly_43 Start: 45349, Stop: 44927, Start Num: 3
Candidate Starts for Charianelly_43:
(Start: 3 @45349 has 57 MA's), (7, 45307), (9, 45286), (16, 45112), (26, 44932),

Gene: Chelms_41 Start: 43200, Stop: 42778, Start Num: 3
Candidate Starts for Chelms_41:
(Start: 3 @43200 has 57 MA's), (5, 43179), (7, 43158), (9, 43137), (16, 42963), (17, 42876), (26, 42783),

Gene: CinnamonToast_48 Start: 45165, Stop: 44743, Start Num: 3
Candidate Starts for CinnamonToast_48:
(Start: 1 @45213 has 6 MA's), (Start: 3 @45165 has 57 MA's), (5, 45144), (7, 45123), (9, 45102), (14, 44970), (16, 44928), (17, 44841), (26, 44748),

Gene: Crete_42 Start: 43463, Stop: 43041, Start Num: 3
Candidate Starts for Crete_42:
(Start: 3 @43463 has 57 MA's), (5, 43442), (7, 43421), (9, 43400), (16, 43226), (17, 43139), (26, 43046),

Gene: Dakiti_42 Start: 44068, Stop: 43646, Start Num: 3
Candidate Starts for Dakiti_42:
(Start: 3 @44068 has 57 MA's), (5, 44047), (7, 44026), (9, 44005), (16, 43831), (17, 43744), (26, 43651),

Gene: Damp_43 Start: 44513, Stop: 44091, Start Num: 3
Candidate Starts for Damp_43:
(Start: 3 @44513 has 57 MA's), (7, 44471), (9, 44450), (16, 44276), (26, 44096),

Gene: Demosthenes_40 Start: 44678, Stop: 44226, Start Num: 6
Candidate Starts for Demosthenes_40:

(Start: 6 @44678 has 12 MA's), (15, 44507), (16, 44465), (19, 44366), (21, 44354), (25, 44300), (27, 44270),

Gene: Diabla_45 Start: 44946, Stop: 44524, Start Num: 3
Candidate Starts for Diabla_45:
(Start: 1 @44994 has 6 MA's), (Start: 3 @44946 has 57 MA's), (5, 44925), (7, 44904), (9, 44883), (16, 44709), (26, 44529),

Gene: Eggsie_41 Start: 43215, Stop: 42793, Start Num: 3
Candidate Starts for Eggsie_41:
(Start: 1 @43263 has 6 MA's), (Start: 3 @43215 has 57 MA's), (5, 43194), (7, 43173), (9, 43152), (16, 42978), (26, 42798),

Gene: Ekhein_43 Start: 43082, Stop: 42660, Start Num: 3
Candidate Starts for Ekhein_43:
(Start: 1 @43130 has 6 MA's), (Start: 3 @43082 has 57 MA's), (5, 43061), (7, 43040), (9, 43019), (14, 42887), (16, 42845), (17, 42758), (26, 42665),

Gene: Exiguo_42 Start: 43094, Stop: 42672, Start Num: 3
Candidate Starts for Exiguo_42:
(Start: 1 @43142 has 6 MA's), (Start: 3 @43094 has 57 MA's), (5, 43073), (7, 43052), (9, 43031), (14, 42899), (16, 42857), (26, 42677),

Gene: FelixAlejandro_47 Start: 45309, Stop: 44887, Start Num: 3
Candidate Starts for FelixAlejandro_47:
(Start: 1 @45357 has 6 MA's), (Start: 3 @45309 has 57 MA's), (5, 45288), (7, 45267), (9, 45246), (12, 45144), (14, 45114), (16, 45072), (17, 44985), (26, 44892),

Gene: Flakey_42 Start: 43958, Stop: 43536, Start Num: 3
Candidate Starts for Flakey_42:
(Start: 1 @44006 has 6 MA's), (Start: 3 @43958 has 57 MA's), (5, 43937), (7, 43916), (9, 43895), (14, 43763), (16, 43721), (17, 43634), (26, 43541),

Gene: GMA7_36 Start: 38170, Stop: 37757, Start Num: 4
Candidate Starts for GMA7_36:
(2, 38227), (Start: 4 @38170 has 3 MA's), (7, 38143), (10, 38107), (11, 38050), (22, 37819),

Gene: GTE7_34 Start: 38174, Stop: 37788, Start Num: 7
Candidate Starts for GTE7_34:
(2, 38258), (Start: 4 @38201 has 3 MA's), (7, 38174), (10, 38138), (11, 38081), (22, 37850),

Gene: GalacticEye_43 Start: 45311, Stop: 44889, Start Num: 3
Candidate Starts for GalacticEye_43:
(Start: 3 @45311 has 57 MA's), (7, 45269), (9, 45248), (16, 45074), (26, 44894),

Gene: Gorko_42 Start: 43086, Stop: 42664, Start Num: 3
Candidate Starts for Gorko_42:
(Start: 1 @43134 has 6 MA's), (Start: 3 @43086 has 57 MA's), (5, 43065), (7, 43044), (9, 43023), (14, 42891), (16, 42849), (17, 42762), (26, 42669),

Gene: GourdThymes_42 Start: 43960, Stop: 43538, Start Num: 3
Candidate Starts for GourdThymes_42:

(Start: 1 @44008 has 6 MA's), (Start: 3 @43960 has 57 MA's), (5, 43939), (7, 43918), (9, 43897), (14, 43765), (16, 43723), (17, 43636), (26, 43543),

Gene: Guillaume_43 Start: 45361, Stop: 44939, Start Num: 3
Candidate Starts for Guillaume_43:
(Start: 3 @45361 has 57 MA's), (7, 45319), (9, 45298), (16, 45124), (26, 44944),

Gene: Hail2Pitt_42 Start: 45837, Stop: 45415, Start Num: 3
Candidate Starts for Hail2Pitt_42:
(Start: 3 @45837 has 57 MA's), (7, 45795), (9, 45774), (16, 45600), (26, 45420),

Gene: Harambe_43 Start: 45628, Stop: 45206, Start Num: 3
Candidate Starts for Harambe_43:
(Start: 3 @45628 has 57 MA's), (7, 45586), (9, 45565), (16, 45391), (26, 45211),

Gene: HayZem_45 Start: 43953, Stop: 43540, Start Num: 4
Candidate Starts for HayZem_45:
(2, 44010), (Start: 4 @43953 has 3 MA's), (7, 43926), (10, 43890), (11, 43833), (22, 43602), (23, 43599),

Gene: Hello_43 Start: 45590, Stop: 45168, Start Num: 3
Candidate Starts for Hello_43:
(Start: 3 @45590 has 57 MA's), (7, 45548), (9, 45527), (16, 45353), (26, 45173),

Gene: Hollow_41 Start: 45084, Stop: 44632, Start Num: 6
Candidate Starts for Hollow_41:
(Start: 6 @45084 has 12 MA's), (15, 44913), (16, 44871), (19, 44772), (21, 44760), (27, 44676),

Gene: Hotorobo_42 Start: 44013, Stop: 43543, Start Num: 1
Candidate Starts for Hotorobo_42:
(Start: 1 @44013 has 6 MA's), (Start: 3 @43965 has 57 MA's), (5, 43944), (7, 43923), (9, 43902), (14, 43770), (16, 43728), (17, 43641), (26, 43548),

Gene: Jams_43 Start: 44799, Stop: 44377, Start Num: 3
Candidate Starts for Jams_43:
(Start: 3 @44799 has 57 MA's), (7, 44757), (9, 44736), (16, 44562), (26, 44382),

Gene: Jellybones_46 Start: 45218, Stop: 44748, Start Num: 1
Candidate Starts for Jellybones_46:
(Start: 1 @45218 has 6 MA's), (Start: 3 @45170 has 57 MA's), (5, 45149), (7, 45128), (9, 45107), (12, 45005), (14, 44975), (16, 44933), (17, 44846), (26, 44753),

Gene: John316_46 Start: 45123, Stop: 44701, Start Num: 3
Candidate Starts for John316_46:
(Start: 1 @45171 has 6 MA's), (Start: 3 @45123 has 57 MA's), (5, 45102), (7, 45081), (9, 45060), (14, 44928), (16, 44886), (26, 44706),

Gene: Jormungandr_43 Start: 45343, Stop: 44921, Start Num: 3
Candidate Starts for Jormungandr_43:
(Start: 3 @45343 has 57 MA's), (7, 45301), (9, 45280), (16, 45106), (26, 44926),

Gene: Kaseim_43 Start: 44784, Stop: 44362, Start Num: 3
Candidate Starts for Kaseim_43:

(Start: 3 @44784 has 57 MA's), (7, 44742), (9, 44721), (16, 44547), (26, 44367),

Gene: Katyusha_40 Start: 44738, Stop: 44286, Start Num: 6
Candidate Starts for Katyusha_40:
(Start: 6 @44738 has 12 MA's), (15, 44567), (16, 44525), (19, 44426), (20, 44423), (21, 44414), (25, 44360), (27, 44330),

Gene: Kelzog_44 Start: 43972, Stop: 43550, Start Num: 3
Candidate Starts for Kelzog_44:
(Start: 1 @44020 has 6 MA's), (Start: 3 @43972 has 57 MA's), (5, 43951), (7, 43930), (9, 43909), (12, 43807), (14, 43777), (16, 43735), (26, 43555),

Gene: Kvothe_40 Start: 44637, Stop: 44185, Start Num: 6
Candidate Starts for Kvothe_40:
(Start: 6 @44637 has 12 MA's), (15, 44466), (16, 44424), (19, 44325), (20, 44322), (21, 44313), (25, 44259), (27, 44229),

Gene: Lahirium_43 Start: 45865, Stop: 45443, Start Num: 3
Candidate Starts for Lahirium_43:
(Start: 3 @45865 has 57 MA's), (7, 45823), (9, 45802), (16, 45628), (26, 45448),

Gene: Lidong_43 Start: 45599, Stop: 45177, Start Num: 3
Candidate Starts for Lidong_43:
(Start: 3 @45599 has 57 MA's), (7, 45557), (9, 45536), (16, 45362), (26, 45182),

Gene: Linetti_42 Start: 44194, Stop: 43772, Start Num: 3
Candidate Starts for Linetti_42:
(Start: 3 @44194 has 57 MA's), (5, 44173), (7, 44152), (9, 44131), (16, 43957), (26, 43777),

Gene: Lizzo_42 Start: 43954, Stop: 43532, Start Num: 3
Candidate Starts for Lizzo_42:
(Start: 1 @44002 has 6 MA's), (Start: 3 @43954 has 57 MA's), (5, 43933), (7, 43912), (9, 43891), (12, 43789), (14, 43759), (16, 43717), (26, 43537),

Gene: Luker_44 Start: 45818, Stop: 45396, Start Num: 3
Candidate Starts for Luker_44:
(Start: 3 @45818 has 57 MA's), (7, 45776), (9, 45755), (16, 45581), (26, 45401),

Gene: Minos_44 Start: 45341, Stop: 44919, Start Num: 3
Candidate Starts for Minos_44:
(Start: 3 @45341 has 57 MA's), (7, 45299), (9, 45278), (16, 45104), (26, 44924),

Gene: Monty_41 Start: 43104, Stop: 42682, Start Num: 3
Candidate Starts for Monty_41:
(Start: 1 @43152 has 6 MA's), (Start: 3 @43104 has 57 MA's), (5, 43083), (7, 43062), (9, 43041), (12, 42939), (16, 42867), (26, 42687),

Gene: MrWormie_43 Start: 44502, Stop: 44080, Start Num: 3
Candidate Starts for MrWormie_43:
(Start: 3 @44502 has 57 MA's), (7, 44460), (9, 44439), (16, 44265), (26, 44085),

Gene: Msay19_47 Start: 45300, Stop: 44878, Start Num: 3
Candidate Starts for Msay19_47:

(Start: 1 @45348 has 6 MA's), (Start: 3 @45300 has 57 MA's), (5, 45279), (7, 45258), (9, 45237), (12, 45135), (14, 45105), (16, 45063), (17, 44976), (26, 44883),

Gene: Neoevie_43 Start: 45604, Stop: 45182, Start Num: 3
Candidate Starts for Neoevie_43:
(Start: 3 @45604 has 57 MA's), (7, 45562), (9, 45541), (16, 45367), (26, 45187),

Gene: Newt_44 Start: 45832, Stop: 45410, Start Num: 3
Candidate Starts for Newt_44:
(Start: 3 @45832 has 57 MA's), (7, 45790), (9, 45769), (16, 45595), (26, 45415),

Gene: Niagara_40 Start: 44716, Stop: 44243, Start Num: 6
Candidate Starts for Niagara_40:
(Start: 6 @44716 has 12 MA's), (15, 44545), (16, 44503), (19, 44383), (21, 44371), (24, 44326), (25, 44317), (27, 44287),

Gene: Nimi13_43 Start: 45350, Stop: 44928, Start Num: 3
Candidate Starts for Nimi13_43:
(Start: 3 @45350 has 57 MA's), (7, 45308), (9, 45287), (16, 45113), (26, 44933),

Gene: Philon9_43 Start: 45911, Stop: 45444, Start Num: 6
Candidate Starts for Philon9_43:
(Start: 6 @45911 has 12 MA's), (13, 45770), (16, 45698), (18, 45611), (21, 45593),

Gene: PierreThree_41 Start: 44065, Stop: 43643, Start Num: 3
Candidate Starts for PierreThree_41:
(Start: 3 @44065 has 57 MA's), (5, 44044), (7, 44023), (9, 44002), (16, 43828), (17, 43741), (26, 43648),

Gene: PokyPuppy_40 Start: 44005, Stop: 43583, Start Num: 3
Candidate Starts for PokyPuppy_40:
(Start: 3 @44005 has 57 MA's), (5, 43984), (7, 43963), (8, 43954), (9, 43942), (16, 43768), (17, 43681), (26, 43588),

Gene: Poland_47 Start: 45279, Stop: 44857, Start Num: 3
Candidate Starts for Poland_47:
(Start: 1 @45327 has 6 MA's), (Start: 3 @45279 has 57 MA's), (5, 45258), (7, 45237), (9, 45216), (12, 45114), (14, 45084), (16, 45042), (17, 44955), (26, 44862),

Gene: RemRem_43 Start: 43094, Stop: 42672, Start Num: 3
Candidate Starts for RemRem_43:
(Start: 1 @43142 has 6 MA's), (Start: 3 @43094 has 57 MA's), (5, 43073), (7, 43052), (9, 43031), (16, 42857), (17, 42770), (26, 42677),

Gene: RoyalG_42 Start: 43558, Stop: 43136, Start Num: 3
Candidate Starts for RoyalG_42:
(Start: 1 @43606 has 6 MA's), (Start: 3 @43558 has 57 MA's), (5, 43537), (7, 43516), (9, 43495), (16, 43321), (26, 43141),

Gene: Sam12_42 Start: 43094, Stop: 42672, Start Num: 3
Candidate Starts for Sam12_42:
(Start: 1 @43142 has 6 MA's), (Start: 3 @43094 has 57 MA's), (5, 43073), (7, 43052), (9, 43031), (14, 42899), (16, 42857), (26, 42677),

Gene: Shelley_43 Start: 44826, Stop: 44404, Start Num: 3
Candidate Starts for Shelley_43:
(Start: 3 @44826 has 57 MA's), (7, 44784), (9, 44763), (16, 44589), (26, 44409),

Gene: Sombrero_42 Start: 43096, Stop: 42674, Start Num: 3
Candidate Starts for Sombrero_42:
(Start: 1 @43144 has 6 MA's), (Start: 3 @43096 has 57 MA's), (5, 43075), (7, 43054), (9, 43033), (12, 42931), (14, 42901), (16, 42859), (17, 42772), (26, 42679),

Gene: Squibbles_42 Start: 43957, Stop: 43535, Start Num: 3
Candidate Starts for Squibbles_42:
(Start: 1 @44005 has 6 MA's), (Start: 3 @43957 has 57 MA's), (5, 43936), (7, 43915), (9, 43894), (14, 43762), (16, 43720), (17, 43633), (26, 43540),

Gene: SteveFrench_41 Start: 43798, Stop: 43376, Start Num: 3
Candidate Starts for SteveFrench_41:
(Start: 1 @43846 has 6 MA's), (Start: 3 @43798 has 57 MA's), (5, 43777), (7, 43756), (9, 43735), (16, 43561), (26, 43381),

Gene: Sticker17_43 Start: 45341, Stop: 44919, Start Num: 3
Candidate Starts for Sticker17_43:
(Start: 3 @45341 has 57 MA's), (7, 45299), (9, 45278), (16, 45104), (26, 44924),

Gene: Teal_43 Start: 45809, Stop: 45387, Start Num: 3
Candidate Starts for Teal_43:
(Start: 3 @45809 has 57 MA's), (7, 45767), (9, 45746), (16, 45572), (26, 45392),

Gene: Teatealatte_41 Start: 44640, Stop: 44188, Start Num: 6
Candidate Starts for Teatealatte_41:
(Start: 6 @44640 has 12 MA's), (15, 44469), (16, 44427), (19, 44328), (20, 44325), (21, 44316), (25, 44262), (27, 44232),

Gene: Teech_41 Start: 44441, Stop: 43989, Start Num: 6
Candidate Starts for Teech_41:
(Start: 6 @44441 has 12 MA's), (15, 44270), (16, 44228), (19, 44129), (20, 44126), (21, 44117), (25, 44063), (27, 44033),

Gene: Tredge_41 Start: 44640, Stop: 44188, Start Num: 6
Candidate Starts for Tredge_41:
(Start: 6 @44640 has 12 MA's), (15, 44469), (16, 44427), (19, 44328), (20, 44325), (21, 44316), (25, 44262), (27, 44232),

Gene: Vitaenoii_43 Start: 45910, Stop: 45443, Start Num: 6
Candidate Starts for Vitaenoii_43:
(Start: 6 @45910 has 12 MA's), (13, 45769), (16, 45697), (18, 45610), (21, 45592),

Gene: Woes_43 Start: 45860, Stop: 45438, Start Num: 3
Candidate Starts for Woes_43:
(Start: 3 @45860 has 57 MA's), (7, 45818), (9, 45797), (16, 45623), (26, 45443),

Gene: Worcestershire_42 Start: 43096, Stop: 42674, Start Num: 3
Candidate Starts for Worcestershire_42:

(Start: 1 @43144 has 6 MA's), (Start: 3 @43096 has 57 MA's), (5, 43075), (7, 43054), (9, 43033), (14, 42901), (16, 42859), (17, 42772), (26, 42679),